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CLAIMS

[Utility model registration claim]
[Claim 1] The objective lens actuator of the optical pickup characterized by having established the slot from the inlet port of a depression to a base in the side face of the depression for balancer anchoring of an objective lens attachment component, and establishing said slot and the slot which stands in a row in the intersection of the side face of said depression, and a base.
[Claim 2] The objective lens actuator of the optical pickup characterized by having prepared the bore which carries out opening outside in the base of the depression for balancer anchoring of an objective lens attachment component, and preparing the slot which was connected with said bore on the base of said depression, and has been arranged at the radial.

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DETAILED DESCRIPTION

[Detailed explanation of a design]
[Industrial Application]
With respect to the objective lens actuator for the tracking in an optical disk record regenerative apparatus, and focusing, especially, the fitting location of a balancer is stabilized by this design and it is related with the objective lens actuator of an optical pickup with easy anchoring of a balancer.
[Description of the Prior Art]
In optical disk regenerative apparatus, such as a CD player, a laser beam is irradiated from an optical pickup at the pit train arranged spirally at the optical disk, the laser beam reflected from an optical disk is received by the optical pickup, and it changes into an electrical signal.
For the eccentricity to the center of rotation of the pit train of the optical disk which rotates at high speed, a pit train sways and is carried out the surroundings, and a laser spot is shaken in the direction of a right angle to a pit train so that a pit train may be followed.
That is, tracking is performed.
Moreover, with deformation of a disk or the inclination of a turntable, since an optical disk moves up and down, a laser spot also moves up and down according to it.
That is, focusing is performed.
The above-mentioned tracking and focusing are performed by moving the objective lens attachment component which the objective lens fixed.
The driving force of an objective lens attachment component arranges in a field the focusing coil and tracking coil which were attached to the objective lens attachment component, and although it generates by passing a current in these coils, in order to proportion the variation rate of an objective lens attachment component on a coil current, it is necessary to apply the force of the variation rate proportional to a variation rate, and hard flow.
The force of this hard flow is applied with the elastic support object arranged between the base and an objective lens attachment component.
An objective lens attachment component needs to balance the circumference of a main shaft in order to rotate to the circumference of a main shaft at high speed.
The condition of attaching the balancer for balancing the circumference of a main shaft in the conventional objective lens attachment component is shown in Fig. 9 .
As shown in Fig. 9 (a) and (b), depression 2a for balancer anchoring is prepared in the edge of the objective lens attachment component 2, and the balancer 4 as shown in Fig. 9 (c) is inserted.

Adhesives are applied to depression 2for balancer anchoring a before insertion of a balancer 4, and at the time of balancer anchoring, excessive adhesives are protruded from the bore prepared in the balancer 4, and are wiped off.
The bore prepared in the balancer 4 serves as the air vent at the time of balancer insertion.
[The trouble which a design tends to solve]
However, in the above-mentioned conventional thing, in order to open the bore for missing adhesives to a balancer, the cost of manufacture becomes high.
moreover, it is necessary to apply adhesives to the balancer anchoring side of an objective lens

attachment component, and excessive adhesives are **** -- the process to wipe off was required when it carried out.
Furthermore, the fitting location of a balancer is not stabilized by fluctuation of the amount of the adhesives between a balancer and an objective lens attachment component, but it was easy to generate gap of balance.
This design is made in view of the above-mentioned point, and anchoring of a balancer is easy for the place made into that purpose, and is to offer the objective lens actuator whose fitting location is stable.
[The means for solving a technical problem]
The objective lens actuator of this design establishes the slot from the inlet port of a depression to a base in the side face of the depression for balancer anchoring of an objective lens attachment component, and establishes said slot and the slot which stands in a row in the intersection of the side face of said depression, and a base.
Moreover, the bore which carries out opening outside is prepared in the base of the depression for balancer anchoring of an objective lens attachment component, and the slot which was connected with said bore on the base of said depression, and has been arranged at the radial is prepared.
[Function]
Since the adhesives between a balancer and an objective lens attachment component enter into the slot or bore prepared in the depression for balancer anchoring of an objective lens attachment component, they can make the fitting dimension of the depression of a balancer and an objective lens attachment component a press fit condition, and can make an installation location more exact.
Moreover, after balancer press fit, adhesives are possible also for pouring in from the bore of an objective lens attachment component, and become efficient [a production process].
[Example]
The example of the objective lens actuator of this design is explained based on a drawing.
An A-A sectional view [in / Fig. 1 , and / in Fig. 2 / Fig. 1] and Fig. 3 are B-B sectional views in Fig. 1 . [the top view of the objective lens actuator of the example of this design]
York 6 of the KO typeface which has inner York 6a and outside York 6b is being fixed to the base 1 on the screw etc. in the location of the both sides of a main shaft 8, a permanent magnet 7 is stuck inside outside York 6b, and the magnetic circuit is formed with York 6 and a permanent magnet 7.
The objective lens attachment component 2 shown in Figs. 4 thru/or 6 in detail is fabricated with a high functional polymer with large dimensional stability and rigidity, such as polyphenylene sulfide (PPS) and a liquid crystal polymer (LCP), and the bearing 11 is attached in one in insert molding.
The main shaft 8 which carries out dense fitting with the above-mentioned bearing 11 is pressed fit in the hole established in the base 1 with high precision, and is being fixed to it.
Adhesives are used for the objective lens attachment component 2, it is pasted, and an objective lens 3 moves to the objective lens attachment component 2 and one.
Fitting of the hole formed in the upper part of the elastic support objects 5 and 5 made from silicone rubber is carried out to the height formed in the objective lens attachment component 2.

As shown in Figs. 2 and 3 , the lower part of the elastic support object 5 is being inserted and fixed to the hole of the base 1.
The pars intermedia of the elastic support object 5 serves as an ellipse configuration, stability occurs by compression of an ellipse, and expanding to the variation rate of the direction of focusing of the objective lens attachment component 2, and stability occurs by twist of an ellipse to the variation rate of the direction of tracking.
As shown in Fig. 2 , the focusing coil 9 is twisted around the coil bobbin of the objective lens attachment component 2.
It pastes up on the focusing coil 9, and the tracking coil 10 and 10 -- are arranged so that the operation section of coil lead wire may come to the strong field location of said magnetic circuit.

According to the signal which detects a gap of the disk radial of the laser spot to an optical disk pit train and the thickness direction, a laser spot is followed by the tracking coil 10, 10 —, and the focusing coil 9 in a current at a sink and a pit train.
The balancer 4 is pressed fit in the hole established in the objective lens attachment component 2 in order to make the main shaft of the moment of inertia of the objective lens attachment component 2 in agreement with the medial axis of a main shaft 8. As shown in Figs. 4 thru/or 6 , bore 2b is prepared in the center of a pars basilaris ossis occipitalis at depression 2for anchoring a of a balancer 4, and the slots 2c and 2c of die-length l are established in the side face.
The adhesives applied to the front face of depression 2a enter bore 2b or Slots 2c and 2c at the time of insertion of a balancer.
****** for balancer 4 anchoring of the objective lens attachment component 2 of other examples is shown, the slots 2c and 2c which arrive at a base are established in the side face of a depression, and Fig. 7 is established in the corner (the A section of illustration) of a depression so that it may stand in a row in the slot 2e fang furrows 2c and 2c as shown in Fig. 8 (a).
Moreover, bore 2b is prepared in the base of a depression and 2d of slots which spread in a radial from bore 2b is prepared further. The example of the cross-section configuration of 2d of slots is shown in drawing 8 (b) – (d). In this example, after pressing a balancer 4 fit, adhesives are poured in from bore 2b or slot 2c, and a balancer 4 can be pasted up on depression 2a of the objective lens attachment component 2. Then, adhesives are dented through passage or slot 2c and slot 2e in 2d of slots of bore 2b and a radial, and spread on the base of 2a.
[Effect of the Device]
In the objective lens attachment component of this design, as stated above, since it enters into the excessive adhesives fang furrow and excessive bore at the time of balancer anchoring, the fitting location of a balancer is stabilized and actuation is stabilized.
After pressing a balancer fit in a depression, if adhesives are poured in from a bore, anchoring of a balancer will become easy.

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DESCRIPTION OF DRAWINGS

[Brief Description of the Drawings]
An A-A sectional view [in / Fig. 1 , and / in Fig. 2 / Fig. 1], [the top view of the objective lens actuator of the example of this design] A B-B sectional view [in / in Fig. 3 / Fig. 1], the plan showing [4] the objective lens attachment component of this example, An A-A sectional view [in / Fig. 5 and / in Fig. 6 / Fig. 4], the perspective view showing [7] the balancer anchoring condition in other examples of this design, [this bottom view] The sectional view showing the B section [in / in the sectional view showing the A section / in / in Fig. 8 (a) / Fig. 7 /, Fig. 8 (b) (c), and (d) / Fig. 7], The top view showing [9] balancer anchoring **** of the conventional objective lens attachment component (a), an A-A sectional view [in / in Fig. 9 (b) / Fig. 9], and Fig. 9 (c) are perspective views showing the balancer attached in the conventional objective lens attachment component.
1 .... the base and 2 .. an objective lens attachment component and 2a .. denting -- 2b .. a bore and 2c .. a slot and 3 .. an objective lens and 4 .. a balancer and 5 .. an elastic support object and 6 .. York and 6a .. inside York and 6b .. outside York and 7 .. a permanent magnet and 8 .. a main shaft and 9 .. a focusing coil and 10 .. a tracking coil and 11 .. a bearing.

[Translation done.]